REMARKS

The Office Action dated February 20, 2008, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Status of the Claims

Claims 1-15 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Claims 1-16 are currently pending in the application and are respectfully submitted for consideration.

Improper Finality

In the previous Response, Applicant argued that <u>Farinacci et al.</u> fails to disclose or suggest "transmitting multicast data packets in at least one **first multicast tree** from one transmitter through a plurality of multicast controllers to a plurality of recipients; generating at least one **second multicast tree** configured to control messages in an internet protocol network from a network multicast controller to at least one multicast controller at cell level" (page 13, emphasis added). Rather, <u>Farinacci et al.</u> only discusses "a <u>single</u> multicast tree" (*Id.*). The Office Action stated on page 18 that "applicant argues that a single multicast tree is used. However, originally filed claims 1 and 13 (03/04/2004) do not make a distinction that there are more than one *distinctly different multicast trees*." However, the Office Action stated on page 2 that "[t]he amended claims filed on 11/26/2007 have been entered." Entered claim amendments must be considered in the Office Action.

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As such, despite Applicant's clear traversal, the outstanding final Office Action did not respond to the Applicant's argument that "at least one first multicast tree" and "at least one second multicast tree", which were added to claims 1 and 13 in the previous Response, are not disclosed by Farinacci et al. The failure to respond to Applicant's traversal of the 35 U.S.C. § 102 rejection presented in the Office Action mailed August 2, 2007, renders the finality of the outstanding Office Action improper.

MPEP § 707.07(f) states that "[i]n order to provide a complete application file history and to enhance the clarity of the prosecution history record, an examiner must provide clear explanations of all actions taken by the examiner during prosecution of an application." "Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it" (*Id.*). "The examiner must address **all arguments** which have not already been responded to in the statement of the rejection" (MPEP § 707.07(f), Examiner Note 1, emphasis added).

Here, the outstanding Office Action failed to address Applicant's clear traversal. Further, failure to specifically respond to Applicant's arguments renders the Office Action arbitrary and capricious, and therefore invalid, under the Administrative Procedure Act (5 U.S.C. § 706), a standard to which all Actions by the USPTO must adhere (see *Dickenson v. Zurko*, 527 U.S. 150 (1999)). For at least these reasons, the finality of the outstanding Office Action is improper.

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Accordingly, Applicant respectfully requests that the finality of the outstanding Office Action be withdrawn.

Claim Objections

Claims 1-12 and 16 were objected to because of minor informalities. Specifically, the Office Action stated on page 2 that "'the control messages' in line 10 is the first occurrence." Claim 1 is amended herein to recite "generating at least one second multicast tree for control messages".

The Office Action also stated on page 2 that "'the cell-level multicast controllers' is the first occurrence." Applicant respectfully submits that claim 1 does not recite the aforementioned features. Rather, claim 1 recites "at least one multicast controller at cell level" in lines 5-6, which provides sufficient antecedent basis for the recitation of "the at least one multicast controller at cell level". Applicant believes the Office Action may have intended to refer instead to claims 2-4 and 9-12. Claims 2-4 and 9-12 are amended herein to recite "the at least one multicast controller at cell level".

Accordingly, Applicant respectfully requests that the objections to claims 1-12 and 16 be withdrawn.

Rejection under 35 U.S.C. § 112

Claims 2-8 and 11-15 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Specifically, the Office Action stated on page 3 that "the at least one multicast tree configured for the control messages" in claims 2, 3, 11 and 12, the "at least one multicast tree" in claim 4 and "the transmitting" in claims 5-8 lack antecedent basis.

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Further, the Office Action stated on page 3 that "a plurality of routers configured to transmit of different components" in claim 13 is not clear.

With respect to the rejection of claims 2, 3, 11 and 12, Applicant respectfully submits that antecedent basis is provided for "the control messages" in amended claim 1, as discussed above with respect to the claim objections.

With respect to claim 4, the claim is amended to recite "the at least one first multicast tree", which has antecedent basis in claim 1.

With respect to claims 5-8, "transmitting" is removed from the claims.

With respect to claim 13, "of" is removed so the claim recites "a plurality of routers configured to transmit different components".

With respect to claims 14 and 15, while the claims appear in the heading of the rejection, no reasoning for the rejection of these claims is provided in the Office Action. It is respectfully submitted that claims 14 and 15 comply with the requirements of 35 U.S.C. § 112, second paragraph.

Accordingly, Applicant respectfully requests that the rejection of claims 1-12 and 16 under 35 U.S.C. § 112, second paragraph be withdrawn.

Rejection under 35 U.S.C. § 102

Claims 1-9, 11 and 13-15 were rejected under 35 U.S.C. § 102(e) as being anticipated by Farinacci et al. (U.S. Publication No. 2006/0203819). The Office Action took the position that Farinacci et al. discloses all of the features recited in claims 1-9, 11 and 13-15. While claim 16 was not listed in the heading of the rejection, the claim was

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addressed in the body thereof. As such, Applicant assumes that the Examiner also intended to reject claim 16 under this section. Applicant respectfully submits that Farinacci et al. fails to disclose or suggest the features of these claims.

Claim 1, from which claims 2-12 depend, recites a method including transmitting multicast data packets in at least one first multicast tree from one transmitter through a plurality of multicast controllers to a plurality of recipients, generating at least one second multicast tree for control messages in an internet protocol network from a network multicast controller to at least one multicast controller at cell level and transmitting the control messages from the network multicast controller along the at least one second multicast tree to the at least one multicast controller at cell level. The control messages include information on the multicast transmission of the internet protocol network and a command configured to connect to the at least one first multicast tree of the internet protocol network configured for multicasts.

Claim 13, from which claims 14 and 15 depend, recites an arrangement for implementing multicasting in internet protocol networks including a plurality of routers configured to transmit different components in the internet protocol networks to each other, at least one first multicast tree configured to transmit multicast packets through a plurality of multicast controllers to a plurality of recipients, a plurality of cell-level multicast controllers configured to transmit packets to the plurality of receivers and a network multicast controller that is arranged to control the cell-level multicast controllers. An internet protocol network includes at least one second multicast tree configured to

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route control messages from the network multicast controller to the plurality of cell-level multicast controllers. The network multicast controller is configured to transmit control messages along the at least one second multicast tree to the plurality of cell-level multicast controllers. The control messages include information on the multicast transmission of the internet protocol network and a command configured to connect to the at least one first multicast tree of the internet protocol network configured for multicast transmissions.

Claim 16 recites an arrangement including first transmission means for transmitting different components in internet protocol networks to each other, second transmission means for transmitting multicast packets through a plurality of multicast controllers to a plurality of recipients, third transmission means for transmitting packets to the plurality of receivers and control means for controlling the cell-level multicast controllers. An internet protocol network includes fourth transmission means for routing control messages transmitted from the control means to the third transmission means, the control means for transmitting the control messages along the fourth transmission means to the second transmission means and the control messages comprise information on the multicast transmission of the internet protocol network and a command configured to connect to the second transmission means of the internet protocol network configured for multicast transmissions.

As will be discussed below, Farinacci et al. fails to disclose or suggest the features of the presently pending claims.

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Farinacci et al. generally discusses "overloading intermediate routers with state information as the number of multicast groups increases to millions of groups" (paragraph [0009]). Farinacci et al. discusses that:

> A router, known as the SGM source router, receives the multicast packet and writes the multicast delivery tree information into the packet. The SGM source router then encapsulates the packet as a SGM packet with a SGM indicator in the type field, and transmits the SGM packet to the next router in the multicast delivery tree.

(Paragraph [0010]). "Setup of the multicast delivery tree is accomplished ... [by] trace packets" (see paragraph [0011], of Farinacci et al.).

Claim 1 recites, in part, "transmitting multicast data packets in at least one **first multicast tree** from one transmitter through a plurality of multicast controllers to a plurality of recipients" and "generating at least one **second multicast tree** for control messages in an internet protocol network from a network multicast controller to at least one multicast controller at cell level" (emphasis added). Claim 13, which has its own scope, also recites "at least one first multicast tree" and "at least one second multicast tree". As argued in the previous Response, Farinacci et al. fails to disclose or suggest these features (see page 13). Applicant maintains this argument and presents further supporting arguments below.

Farinacci et al. discusses only a single "multicast delivery tree" (see paragraph [0011], where the delivery tree is always referred to in singular form - "a" or "the" multicast delivery tree). This is further evidenced by the fact that Fig. 13 only illustrates a single multicast tree (see Fig. 13; see generally the discussion of Fig. 13 in column

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[0298]-[0331], of <u>Farinacci et al.</u>). On the other hand, claim 1 explicitly recites "at least one first multicast tree" and "at least one second multicast tree". As such, there are at least two multicast trees in the claim. <u>Farinacci et al.</u> neither discloses using multiple multicast trees, nor provides any reasoning as to why this would be preferable. Because <u>Farinacci et al.</u> does not disclose using multiple multicast trees, <u>Farinacci et al.</u> is also incapable of disclosing using separate multicast trees for transmitting multicast data packets and for generating control messages, as claimed.

Per the above, claim 1 recites control messages for at least one multicast controller at cell level. Claims 13 and 16, which each have their own scope, recite similar features. Applicant respectfully submits that <u>Farinacci et al.</u> fails to teach or suggest this feature.

Per the above, <u>Farinacci et al.</u> discusses multicasting in a network having multiple routers. However, <u>Farinacci et al.</u> fails to disclose or suggest a multicast controller at cell level. In fact, the term "cell" does not appear anywhere in <u>Farinacci et al.</u> The present application discusses that in some embodiments, for instance, "[a] cell-level controller 218 to 222 controls one or more cells in the access network. Depending on the system, a cell-level controller can control all cells in the system, or there may be one controller per cell" (see paragraph [0019]). Such a multicast controller at cell level does not exist in <u>Farinacci et al.</u> Thus, <u>Farinacci et al.</u> is incapable of anticipating claim 1 under 35 U.S.C. § 102.

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Claims 2-9, 11, 14 and 15 depend from claims 1 or 13 and add further features thereto. Thus, the arguments presented above with respect to claim 1 also apply to these dependent claims.

Accordingly, it is respectfully requested that the rejection of claims 1-9, 11 and 13-16 under 35 U.S.C. § 102(e) be withdrawn.

Rejections under 35 U.S.C. § 103

Claim 10 was rejected under 35 U.S.C. §103(a) as being unpatentable over Farinacci et al. in view of Chang et al. (U.S. Publication No. 2002/0102967). The Office Action took the position that Farinacci et al. teaches all of the features of claim 10 with the exception of "that the receipients of the cell are made aware that multicast is available" (page 16). Rather, the Office Action relied on Chang et al. to teach this feature. Applicant respectfully submits that the cited section of Chang et al. fails to teach or suggest the features of claim 10.

Chang et al. discusses "a localized, on-demand multicast messaging system for a mobile network that provides messages to users of the mobile network" (paragraph [0007]). "[U]ser profile information can be used by the local message server to define a service ID pool for the user that is downloaded to the user. The service ID pool allows the user to determine which multicast messages meet the user preferences specified in the user's profile" (paragraph [0009], of Chang et al.).

While Chang et al. discusses defining a service ID pool to download to the user, the cited section of Chang et al. is silent as to making recipients of a cell aware that

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multicast is available. Rather, in Chang et al., the service ID pool merely allows the user to determine which messages meet preferences specified in the user's profile. Applicant respectfully submits that this differs from making cell recipients aware that multicast is available. In fact, it appears that users in Chang et al. are previously aware that multicast messages and capabilities are available and as such, it does not seem suitable to provide users with a notification. Thus, Farinacci et al. and Chang et al., both individually and in combination, fail to render claim 10 obvious under 35 U.S.C. § 103(a).

Accordingly, it is respectfully requested that the rejection of claim 10 under 35 U.S.C. § 103(a) be withdrawn.

Claim 12 was rejected under 35 U.S.C. §103(a) as being unpatentable over Farinacci et al. in view of Dean et al. (U.S. Publication No. 2003/0061333). The Office Action took the position that Farinacci et al. teaches all of the features of claim 12 with the exception of "refraining from processing the control message regarding the multicast transmission" (page 18). Rather, the Office Action relied on Dean et al. to teach this feature. Applicant respectfully submits that the cited section of Dean et al. fails to teach or suggest the features of claim 10.

Dean et al. discusses that "once the client has received an ACK for the advertisement, it will ignore further multicast discovery requests with the same transaction ID" (paragraph [0051]). However, Applicant respectfully submits that neither the "ACK" for the advertisement nor the "multicast discovery requests" are equivalent to a "control message" as claimed. The present application discusses that in some

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embodiments, for instance, a control message can comprise "[o]ne or more multicast group identifiers", "[a] recipient definition filter", "[t]he time during which the information contained in the control message is valid" and "[s]ender authentication", among others (see, for example, paragraphs [0025]-[0031]). If the Examiner continues to believe that an "ACK" or a "multicast discovery request" as discussed in Dean et al. is equivalent to a "control message" as claimed, Applicant invites the Examiner to provide detailed reasoning as to why this is alleged to be the case. Thus, Farinacci et al. and Dean et al., both individually and in combination, fail to render claim 12 obvious under 35 U.S.C. § 103(a).

Accordingly, it is respectfully requested that the rejection of claim 12 under 35 U.S.C. § 103(a) be withdrawn.
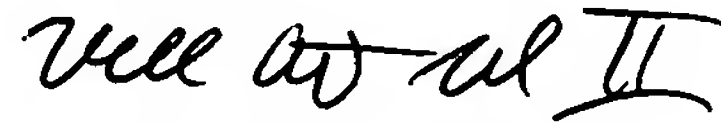
Conclusion

For at least the reasons presented above, it is respectfully submitted that each of claims 1-16, comprising all of the currently pending claims, patentably distinguish over the cited art. Accordingly, it is respectfully requested that the claims be allowed and the application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

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